

Paul D. Reynolds: Entrepreneurship Research Innovator, Coordinator, and Disseminator

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ABSTRACT. Paul Davidson Reynolds is the 2004 winner of the *International Award for Entrepreneurship and Small Business Research*. In this article Professor Reynolds' contributions are summarized in terms of four sets of triplets. The first is as *innovator, coordinator and disseminator* of novel and important empirical research studies. The second triplet concerns the main areas of his contributions: *regional variations in entrepreneurial activity, nascent entrepreneurship and firms in gestation and international comparisons of the prevalence of entrepreneurial activity*. The third set of triplets concerns what aspects of the research process he has contributed to: development of new empirical *methods* to research entrepreneurship; coining of new *concepts* that now permeate this field of research, and provision of important empirical *results*. The final set of triplets concerns the audiences to which Reynolds' research appeal: *researchers, policy-makers and business practitioners*. It is concluded that although his contributions are many and of different kinds, the single most important one is that his research has made it increasingly unreasonable to theorize and design research as if the economy essentially consisted of a relatively stable core of large, established firms and entry and exit of new firms were relatively infrequent, marginal and insignificant.

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1. Contributions in threes

Paul Davidson Reynolds has, arguably, made a deeper and more lasting mark in entrepreneurship than almost any contemporary scholar. He has made his contributions in three different capacities. The first is as *innovator* of new approaches to studying entrepreneurial phenomena. His genuine interest in learning and educating about entrepreneurial phenomena has never been stopped by the limitations of conventional approaches. If new and more difficult routes had to be found and followed he would do so. The second is as *coordinator* of research programs of unmatched scope and duration. The research tasks Paul Reynolds has set for himself have been of such magnitude that neither funding nor execution would be possible for an individual to carry out. Consequently, like a skilled entrepreneur, he has worked with and through other people, organizing research consortia involving three-digit numbers of participants over long periods of time. The third role is as relentless *disseminator* of research findings to the academic, business and policy-making communities. Few if any contemporary scholars have made a matching number of oral and written presentations of research findings to such a variety of audiences all over the globe.

He has made these contributions mainly through his work in three major areas of research, which will here only be briefly mentioned as they will form the backbone of the main body of this article. The first, in the late 1980s through the first half of the 1990s, was his work on the nature, antecedents and effects of *regional variations in entrepreneurial activity*. The

second, from the early 1990s and on-going, is his work on *nascent entrepreneurship and firms in gestation* (the most well-know part of which is known under the labels ‘Entrepreneurship Research Consortium’ (ERC) and ‘Panel Study of Entrepreneurial Dynamics’ (PSED)). The third area, from the late 1990s and on-going, focuses on *international comparisons of the prevalence of entrepreneurial activity* as well as its aggregate- and micro-level antecedents and outcomes and is represented by is the 41-country Global Entrepreneurship Monitor (or GEM, for short).

The kinds of contributions Paul Reynolds has made to our understanding of entrepreneurship and how we can study it can also be described as coming in threes. The first is the *methods* he has invented, imported, and/or put into widespread use as regards capturing, analyzing and reporting information about entrepreneurial phenomena. While the most important of these is the mechanism used in PSED and GEM for identifying a representative sample of *nascent entrepreneurs* and/or *firms in gestation*, many other innovations, big and small, signify Reynolds’ research. The second kind of contribution is the coining, establishing and/or inspiring of novel *concepts* that have become ‘household names’ among entrepreneurship researchers, such as *business volatility*, *nascent entrepreneur*, *gestation process*, *gestation behaviors*, *necessity entrepreneurship*, and others. Third, and very importantly, the research he has conducted and inspired has yielded a range of empirical *results* that have deepened and sometimes radically changed our understanding of the nature and role of entrepreneurial activity in society.

The final threesome to consider is that Reynolds’ work has important implications for three different audiences. Few would disagree that he is unparalleled among empirical researchers as regards addressing the global community of *policy-makers*. In particular the GEM project has had an almost unfathomable impact in this regard. While seen by some as less orientated towards the purely *academic* audience the fact is that Reynolds is very well published in such outlets and – more importantly – certainly among the very top when it comes to citations in the

scholarly literature. While business *practitioners* have not been Reynolds’ primary target the research he has conducted and inspired yields insights into the do’s and don’ts of the start-up process that are highly relevant to business founders themselves – and which is reaching them through educational programs, business incubators, support agencies, and the like.

2. Regional variations in entrepreneurial activity

Researchers with some insights would probably know or guess that David Birch’s seminal study *The Job Generation Process* (Birch, 1979)² was one major source of inspiration for Reynolds’ work on the existence, sources and effects of regional variations in entrepreneurial activity. A second major reason why he, after migrating into entrepreneurship, both initially and continuously has focused on the really big and central questions of the field is much less known. This reason is not so much that Reynolds is a sociologist by training but rather that his prior specialization – resulting in two books (Reynolds, 1982, 1989) – was the ethics of social science research. One of his main conclusions was that it is easier to defend the moral value of a research program if it is ‘related to some important aspect of life and had potential for improving the human condition’ (Reynolds, 2004). I would hold his work qualifies.

At any rate, what Paul Reynolds did in his research on the regional level (Reynolds, 1994, 1999; Reynolds and Maki, 1990; Reynolds et al., 1993, 1995, 1994) can be described as corroboration, refinement and extension of Birch’s (1979) original work on the role of small and new firms in regional job creation. As described in Reynolds and Maki (1990) the key research questions in the project were the following:

- To what extent does the founding of new firms and new branches reflect economic growth or lead to further economic growth?
- What types of business entities, and in what industry sectors, are the major sources of economic growth?
- Do the effects of autonomous firm and branch foundings and expansions on economic growth vary for regions with different economic bases?

To the extent this type of questions had been addressed empirically it had typically been within the paradigms of labor or industrial economics, or the population ecology school (Reynolds, 2000, pp. 154–155). Although such approaches had enjoyed some success Reynolds' project in important ways broke with existing conventions; conceptually by implicitly or explicitly adopting a more Schumpeterian view of the economy (Schumpeter, 1934), and empirically – much in Birch's following – by developing and using a data set that was better suited for the task.³

Important innovations in Reynolds' regional project were the use of Labor Market Areas (LMAs) rather than administrative units as the unit of analysis; the classification of establishments into Simples, Branches and Tops (where the first category is a proxy for small, independent firms), and the inclusion of four types of regional economic dynamism: births, deaths, expansions and contractions, and their respective associated job changes. This also led to new and interesting results regarding the three overriding research questions. Not least the inclusion and unbiased view of the destruction side of creative destruction – presumably partly an input to and partly an outcome of the research project – bore fruit. The data on gross changes in both directions revealed a magnitude of the volatility of establishments and jobs that had until then been largely unknown. In the main report Reynolds and Maki (1990, p. 4) concluded:

The most significant policy implication is related to the discovery that analysis incorporating volatility or turbulence was more fruitful than restricting the attention to establishment births and expansion (...). An adaptable competitive economic system invariably involves a substantial degree of volatility – business births *and* deaths, jobs created *and* destroyed (...). Public policies designed to prevent such changes by assisting organizations and industries in the decline may not only be public subsidies for non-competitive activities, but they may actually retard more efficient or promising economic developments.

The regional project also addressed a fourth core research question: What regional characteristics are associated with higher rates of business start-ups? Eventually, this came to be coordinated with a 6 country European effort organized by David Storey.⁴ Output from the seven country

studies was published in many different places but most importantly in a 1994 special issue of the *Regional Studies* journal (Audretsch and Fritsch, 1994; Davidsson et al., 1994; Garofoli, 1994; Guesnier, 1994; Hart and Gudgin, 1994; Keeble and Walker, 1994; Reynolds, 1994). The analysis of the data set was also harmonized in a cross-country analysis. This allowed the following generalizations:

Analysis of the processes associated with new firm births across seven advanced market economies in the late 1980s (France, Germany, Ireland, Italy, Sweden, United Kingdom and the United States) indicates three processes having a positive impact on firm birth rates:

- growth in demand, indicated by population growth and growth in income
- a population of business organizations dominated by small firms
- a dense, urbanized context, reflecting the advantages of agglomeration, presumably including the benefits of access to customers, sources of supply and capital, as well as awareness of competitors' actions. (Reynolds et al., 1994, p. 453)

Arguably, few reported findings in the entrepreneurship literature have as solid empirical backing as these.

3. Research on nascent entrepreneurs and firms in gestation

Reynolds' resorting to the regional level was timely because of increasing disappointment with the meager results of the overly person-focused approaches that dominated entrepreneurship research at the time. In particular, Gartner (1988) launched an influential critique on the psychological trait approach. Hence, relocating the focus from *traits* to *rates* (Aldrich and Wiedenmayer, 1993) seemed to be precisely the right thing to do. The regional level research no doubt enjoyed considerable success, explaining 60–90% of the variation in regional start-up rates. Individual level research had not at the time seen anything near that level of explanatory power.

However, most entrepreneurship researchers insist entrepreneurship requires human agency (Shane, 2003). The regional level research had

done away with the actor, thus opening itself to the same type or critique William Baumol⁵ launched on the way mainstream economic theory treated the entrepreneur: ‘The Prince of Denmark has been expunged from the discussion of Hamlet’ (Baumol, 1968). Paul Reynolds observed this shortcoming. In his own words: ‘[A] problem remained. Regional characteristics do not start businesses, people start new businesses’. (Reynolds, 2004). His response was what was to become the *PSED*.

The overarching research questions for this research program can be described as follows:

- What proportion of individuals are at any given time involved in a business start-up?
- What led them to pursue the creation of a new business firm?
- What characteristics and behaviors associated with the individual(s), the venture, the environment and the process lead to more and less successful outcomes?

What one needs to do in order to answer these questions is, in hindsight, fairly straightforward: (a) approach a random sample of adult individuals and determine what proportion are ‘nascent entrepreneurs’, (b) find out as much as possible about those who qualify, and (c) use periodic follow-ups to track the development and outcomes of the process. Arguably, many researchers were at the time capable of figuring out what one *should* do. Far fewer would believe this was something one *could* do, and almost nobody *would* take on the enormous task it turned out to be to implement these ideas. Paul Reynolds, initially together with colleagues at Marquette University, did.

The history, design and potential of the *PSED* has been described in detail elsewhere (Gartner et al., 2004; Reynolds, 2000). Yet, the enormity of the challenges involved in setting up and coordinating an innovative research program of this magnitude is very difficult to communicate to an outsider. For one thing, we are talking about developing a standardized procedure for capturing and following emergent phenomena which sometimes not even the actors involved quite know what they are, and which can take off in almost any direction. For this purpose one needs not only to work out and pretest multi-forked

questionnaires reflecting the theoretical concepts one plans to relate in the analysis, but also a new sampling mechanism with screening questions reflecting carefully worked out criteria for what cases qualify and not; criteria for assessing the status of the cases in each follow-up; a set of weights to ascertain the best possible representativeness; codification of the data collection process and the organization of the data set, and a myriad of other fine details.

All of this was going to be cumbersome and costly. It was going to take some 10 years from the first pilot study in Wisconsin until the last follow-up of the full *PSED* data set was completed and (concurrently) articles based on the main study started to appear in scholarly journals. After two forerunner studies in the early 1990s the financial and human capital needed to carry out a full scale, longitudinal study of a representative sample of nascent entrepreneurs/business start-ups was secured through the organizing of the ERC in 1995. This consortium consisted of 30+ US and international institutional members with four individuals on each team, i.e., more than 100 people were directly involved in the project. Midway in the project the Kauffman Foundation took over responsibility for the continued financing and coordination of the project.

In practice, the number of active participants in the ERC was some 20–30 people. However, this is already a very large number for something notoriously known as ‘herding cats’, i.e., trying to make a group of academics walk in the same direction. Anyone can imagine the leadership challenges it entails to balance – at the same time – financial constraints against academic quality criteria; personal integrity and convictions against respect for others; deep investigation of certain issues vs. broad coverage of as many aspects of the phenomenon as possible; the members’ right to the entire dataset vs. their preferred right to output directly related to their unique input, etc.

A project of such scope and duration is not easy for any party involved, but it was surely worth it. Most of those working directly in the project would probably agree that they had learnt more about the business start-up process from this project than from any other, even

before a single publication had come out of it. Eventually, quite a number of publications have come out of PSED as well as its forerunners and international sister studies, making it possible also for others to share new insights into – to name but a few of the topics covered – the prevalence, motivations and comparative characteristics of ‘nascent entrepreneurs’ (Carter et al., 2003; Delmar and Davidsson, 2000; Reynolds, 1997; Reynolds et al., 2004); the prevalence and dynamics of entrepreneurial teams (Aldrich et al., 2004; Reynolds and White, 1997; Ruef et al., 2003); the sequence of start-up behaviors (Carter et al., 1996; Delmar and Shane, 2004); the pros and cons of business planning (Delmar and Shane, 2003; Honig and Karlsson, 2004); gender and minority issues (Alsos and Ljunggren, 1998; Reynolds and White, 1997; Wagner, 2004); the role of financial, human and social capital in the start-up process (Crosa, et al., 2002; Davidsson and Honig, 2003; Liao and Welsch, 2003), and the differential nature of the process by types of entrepreneur (Alsos and Kolvereid, 1998) and types of venture idea (Samuelsson, 2001, 2004). It is worth noting that these are just examples from what is but the beginning of the dissemination of PSED findings. Having been put in the public domain, the PSED data will continue to be a rich source of new research findings for years to come.

These results are interesting and important, but an even more important outcome of PSED is that it has set a new international standard for how the entrepreneurial process should be studied.⁶ Before PSED, our knowledge about the motivations and behaviors leading to business start-ups built on retrospective accounts by those who actually got their firms up and running. This research design entails enormous risks of selection and hindsight biases. Compared to that, the PSED approach is a major leap forward. Like any research PSED has weaknesses and there are undoubtedly aspects of the representativeness of the PSED sample as well as the quality of some of its measures that could be discussed (Davidsson, 2004). However, the data from a project of this kind deserve being judged first by their unique merits and only second by their shortcomings. Importantly, PSED is not the final word – neither as regards design nor

results – but it represents a big step in the right direction. At the time of this writing an important next step has already been decided on – a PSED II study, with Paul Reynolds as coordinator. This provides an opportunity to improve on the remaining weaknesses of the original PSED study.

4. Research on international comparisons of entrepreneurial activity

When the PSED was still midway Paul Reynolds assumed responsibility of a project that would turn out to become even bigger in terms of the number of partners and participants involved: The GEM. After a pretest in 5 countries in 1998, GEM has grown to become a 41-country comparative study; by far the biggest and most influential policy research project ever seen in entrepreneurship and probably in any domain of the social sciences. The 41 countries represent 60% of the world population and 90% of the world GDP (Reynolds, 2004). In a very short time GEM has truly become an institution in entrepreneurship research. At the time of this writing, “Global Entrepreneurship Monitor” yields 11,900 Google hits. For comparison, “Panel Study of Entrepreneurial Dynamics”, despite being a very well known study among academic entrepreneurship researchers, yields only 337 hits. “Babson” in combination with “entrepreneurship” and “conference” gives 8,220 Google hits. In order to reach figures similar to GEM one has to enter the name of one of the leading journals in the field – or the title of Joseph Schumpeter’s (1934) classic “Theory of Economic Development” (12,100 hits). So far, GEM has yielded five annual global reports in different versions (see, e.g., Reynolds et al., 1999, 2000, 2001, 2002, 2003) innumerable reports on specific countries and topics (see www.gemconsortium.org) and an increasing number of research papers.

The core idea in GEM is to apply the PSED sampling technique for assessing and comparing the level of entrepreneurial activities across countries. It also assesses other variables, but very few compared to PSED or most academic research studies, and only in cross-section. While the facts

revealed by the project has some academic value for fundamental understanding of the nature of the phenomenon (e.g., its enormous scope; the spatial variability and relative temporal stability of independent business activity; the dominance for imitative start-ups and small pocket funding, and demographic influences on the level of activity in a country) the GEM data as such are not by far as interesting and influential in academic research as in the policy domain, where they are unparalleled.

However, nothing could be more incorrect than disregarding GEM as “mere policy research” of little import for academic research. First, there is indirect importance. In many countries there is a strong correlation between political interest in an issue and the means available for academic research. It must also be understood that in many of the GEM countries *no* or very little academic research on new and small firms had been conducted before GEM, and the project can thus be the spark or catalyst that the Bolton Report (Bolton, 1971) and Birch’s (1979) study were in the UK and US, respectively. Second, there is direct academic importance arising from combining the GEM data with other data. In some countries regional GEM samples are drawn and/or the cases are followed up longitudinally, significantly enriching the potential of the data for scholarly purposes. Recently (i.e., April, 2004), the first research conference devoted to scholarly analysis of GEM data was held in Berlin. There it became clear, especially now that data over several years are accumulated, that the GEM data have considerable potential when they are combined with other, existing data on the country level. To just mention one example, Dutch researchers presented a very interesting attempt to make sense of the U-shaped relationship, revealed by GEM data, between independent business activity and the level of economic development (van Stel et al., 2004).

Paul Reynolds coordinated the GEM project from 1998 to 2004. At the time of this writing its continuation at its previous scale seems somewhat uncertain. However, regardless of the future of GEM itself it will continue to have an influence on the level and direction of entrepreneurship research worldwide.

5. Conclusion

When colleagues think about Paul Reynolds’ most of them undoubtedly think of his massive empirical studies, and most of them probably fully appreciate the value of the contributions he has made or made possible as regards our understanding of the scope and nature of entrepreneurial phenomena. Some of the more critically minded would possibly characterize his work as somewhat non-theoretical fact finding exercises. However, those who believe him to be lacking conceptual skill or interest would perhaps reconsider after checking his resume a little more carefully, where they would not only find a well cited conceptual piece on the sociology of entrepreneurship (Reynolds, 1991) but also titles like “A Primer in Theory Construction” (Reynolds, 1971) and ‘Concepts, Statements, and Scientific Knowledge’ (Reynolds, 1978).

The real irony of accusing Paul Reynolds for not emphasizing enough the conceptual side of research, however, would be that conceptualization is in a sense what his whole research agenda is all about. This is the most recurrent theme in his writings, but perhaps most explicitly and thoroughly in Reynolds and White (1997) where several chapter endings and a significant part of the concluding chapter are devoted to the ‘Conceptualization of Modern Market Economies’. The authors detail seven common assumptions about the workings of a modern market economy, which they then rebut on the basis of the then available empirical evidence; evidence that has since been manifold strengthened through PSED and GEM. The basic problem is this: should we conceive of the economy as essentially consisting of and carried by a relatively stable core of large, established firms and where the entry and exit of new firms is relatively infrequent, marginal and insignificant, or should we conceive of it as fundamentally characterized by change, and where it is of utmost importance that a large proportion of well integrated citizens are willing and able to participate in this change through their involvement in entrepreneurial endeavors? Paul D. Reynolds’ legacy is that thanks to his work – the empirical ‘fact finding’ – it has become increasingly impossible to regard the second alternative just as an interesting hypothesis.

Notes

¹ The author of this article was a member of the Prize Committee for *The International Award for Entrepreneurship and Small Business Research*. The Prize is awarded by the Swedish Foundation for Small Business Research (FSF) and the Swedish Board for Industrial and Technical Development (NUTEK). An important aim with this prize is to attract broader attention to this field of research. A precondition for choosing the winner of the award is that the research for which the award is granted is a significant contribution to the theory and empirical understanding of entrepreneurship and the importance of entrepreneurship, new firm formation and small businesses in economic development. Apart from the honor the Prize consists of USD 50, 000. It has been awarded annually since 1996. More information about the Prize and previous winners is available at www.fsf.se/intaward.html.

² In 1996 David Birch became the recipient of the inaugural *International Award for Entrepreneurship and Small Business Research*.

³ In passing, it should be noted that the latter signifies much of Reynolds' work. Driven by a genuine will to create and disseminate credible knowledge about important phenomena (rather than maximizing the number of prestige journal hits per time unit) he devotes the time it takes to get the data that can really answer the questions (rather than ignoring fundamental shortcomings of existing data or changing the questions to what the data can answer) and spends considerable amounts of time analyzing and re-analyzing the data in order to make full sense of them (see, e.g., Reynolds, 1997, 1999).

⁴ David Storey was the 1998 recipient of the *International Award for Entrepreneurship and Small Business Research*.

⁵ William Baumol was the 2003 recipient of the *International Award for Entrepreneurship and Small Business Research* (see Eliasson and Henreksson, 2004).

⁶ Several of the examples just referred to are based on the international sister studies, which substantiates that the principles of the PSED design have been adopted internationally. It is also worth mentioning that there are 14 hits for 'nascent entr**' in the ICE data base (www.hj.se/ice) during 2002–2004, written by 13 different lead authors and representing seven countries: Denmark, Germany, Netherlands, Norway, Slovenia, Sweden and the USA.

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